

AMENDMENTS TO THE CLAIMS:

Please cancel claims 14-17 and 19-20 without prejudice or disclaimer.

1. (Previously presented) An active matrix liquid crystal display device comprising:
 - a first substrate;
 - a second substrate disposed in opposing relation to said first substrate;
 - a liquid crystal layer sandwiched between said first substrate and said second substrate;
 - a plurality of pixel electrodes arranged in a matrix on said first substrate;
 - a plurality of switching elements disposed on said first substrate in association with said pixel electrodes, respectively, for driving the pixel electrodes, respectively;
 - a plurality of data lines disposed on said first substrate at respective gaps between adjacent two of said pixel electrodes, for supplying data signals to said switching elements; and
 - a black matrix disposed on said first substrate in association with said data lines, for blocking light passing in a predetermined viewing angle range through a light leakage region created in said liquid crystal layer depending on a potential difference between adjacent two of said pixel electrodes.
2. (Currently amended) An active matrix liquid crystal display device according to claim 1, further comprising:
 - color layers disposed on said first substrate, said color layers constituting color filters.

3. (Previously presented) An active matrix liquid crystal display device according to claim 2, wherein said black matrix comprises an electrically insulating material, and said switching elements comprise thin-film transistors.

4. (Currently amended) An active matrix liquid crystal display device comprising:

a first substrate;

a second substrate disposed in opposing relation to said first substrate;

a liquid crystal layer sandwiched between said first substrate and said second substrate;

an overcoat layer disposed on said first substrate in covering relation to said first substrate;

a plurality of pixel electrodes arranged in a matrix on said overcoat layer;

a plurality of switching elements disposed on said first substrate in association with said pixel electrodes, respectively, for driving the pixel electrodes, respectively;

a plurality of data lines disposed on said first substrate, for supplying data signals to said switching elements, said data lines being covered with said overcoat layer; and

a black matrix disposed on a surface of said overcoat layer on close to said first substrate, at least a portion of said black matrix being formed over said data lines;

said data lines being disposed at respective gaps between adjacent two of said pixel electrodes;

said black matrix being arranged to block light passing in a predetermined viewing angle range through a light leakage region created in said liquid crystal layer depending on a potential difference between adjacent two of said pixel electrodes.

5. (Currently amended) An active matrix liquid crystal display device according to claim 4, further comprising:

color layers disposed on said first substrate, said color layers constituting color filters.

6. (Previously presented) An active matrix liquid crystal display device according to claim 5, wherein said black matrix comprises an electrically insulating material, and said switching elements comprise thin-film transistors.

7-8. (Canceled)

9. (Original) An active matrix liquid crystal display device driven by a gate line inversion driving process, said active matrix liquid crystal display device comprising:

a first substrate with a plurality of switching elements disposed thereon;

a second substrate disposed in opposing relation to said first substrate; a liquid crystal layer sandwiched between said first substrate and said second substrate;

a plurality of data lines disposed on said first substrate, for supplying data signals to said switching elements;

an overcoat layer disposed on said first substrate in covering relation to said data lines and said first substrate;

a plurality of pixel electrodes arranged in a matrix on said overcoat layer; and

a black matrix disposed on said data lines;

said pixel electrodes being driven by said switching elements, respectively;

said data lines being disposed at respective gaps between adjacent two of said pixel electrodes;

said black matrix having a portion overlapping said pixel electrodes, said portion having a width W represented by:

$$W \geq d_{LC}/4 + d_{OC} \cdot \tan \theta$$

where d_{LC} represents a thickness of said liquid crystal layer, d_{OC} represents a thickness of said overcoat layer on said black matrix, and θ represents one-half of a given viewing angle 2θ .

10. (Original) An active matrix liquid crystal display device according to claim 9, wherein the thickness d_{OC} of said overcoat layer on said black matrix is at most $1 \mu\text{m}$, and said overcoat layer planarizes steps of said black matrix to at most $0.5 \mu\text{m}$.

11. (Currently amended) An active matrix liquid crystal display device comprising:

a first substrate with a plurality of switching elements disposed thereon;
a second substrate disposed in opposing relation to said first substrate;
a liquid crystal layer sandwiched between said first substrate and said second substrate;
a plurality of data lines disposed on said first substrate, for supplying data signals to said switching elements;

an overcoat layer disposed on said first substrate in covering relation to said data lines and said first substrate;

a plurality of pixel electrodes arranged in a matrix on said overcoat layer; and

a black matrix formed on said first substrate, at least a portion of said black matrix being

disposed on said data lines;

said pixel electrodes being driven by said switching elements, respectively;

said data lines being disposed at respective gaps between adjacent two of said pixel electrodes;

said black matrix being disposed in a position above said data lines and arranged to block light passing in a predetermined viewing angle range through a light leakage region created in said liquid crystal layer depending on a potential difference between adjacent two of said pixel electrodes.

12. (Original) An active matrix liquid crystal display device according to claim 11, further comprising color layers disposed on said first substrate, said color layers constituting color filters.

13. (Previously presented) An active matrix liquid crystal display device according to claim 12, wherein said black matrix comprises an electrically insulating material, and said switching elements comprise thin-film transistors.

14-17. (Canceled)

18. (Original) An active matrix liquid crystal display device comprising:

a first substrate with a plurality of switching elements disposed thereon;

a second substrate disposed in opposing relation to said first substrate;

a liquid crystal layer sandwiched between said first substrate and said second substrate;
a plurality of data lines disposed on said first substrate, for supplying data signals to said switching elements;
color layers of color filters disposed in at least regions of said first substrate which are free of said data lines;
a plurality of pixel electrodes disposed on said color layers and arranged in a matrix; and
a black matrix of an electrically insulating material disposed on said data lines,
said pixel electrodes being driven by said switching elements, respectively,
said data lines being disposed at respective gaps between adjacent two of said pixel electrodes;
said black matrix being arranged to block light passing in a predetermined viewing angle range through a light leakage region created in said liquid crystal layer depending on a potential difference between adjacent two of said pixel electrodes.

19-20. (Canceled)

21. (New) An active matrix liquid crystal display device according to claim 1, wherein said pixel electrodes comprise a portion extending over said black matrix, said portion having a width W represented by:

$$W \geq d_{LC}/2$$

where d_{LC} represents a thickness of said liquid crystal layer.

22. (New) An active matrix liquid crystal display device according to claim 1, wherein said pixel electrodes comprise a portion extending over said black matrix, said portion having a width W represented by:

$$W \geq d_{LC}/4$$

where d_{LC} represents a thickness of said liquid crystal layer.

23. (New) An active matrix liquid crystal display device according to claim 1, wherein said black matrix comprises a portion extending over said pixel electrodes, said portion having a width W represented by:

$$W \geq d_{LC}/2$$

where d_{LC} represents a thickness of said liquid crystal layer.

24. (New) An active matrix liquid crystal display device according to claim 1, wherein said black matrix comprises a portion extending over said pixel electrodes, said portion having a width W represented by:

$$W \geq d_{LC}/4$$

where d_{LC} represents a thickness of said liquid crystal layer.

25. (New) An active matrix liquid crystal display device according to claim 1, wherein said black matrix is formed between said first substrate and said liquid crystal layer.

26. (New) An active matrix liquid crystal display device according to claim 1, wherein at

least a portion of said black matrix is formed between said data lines and said liquid crystal layer.

27. (New) An active matrix liquid crystal display device according to claim 1, further comprising:

an overcoat layer formed on said first substrate and said data lines,
wherein said black matrix is formed on said overcoat layer.

28. (New) An active matrix liquid crystal display device according to claim 1, further comprising:

an overcoat layer formed on said first substrate and said data lines,
wherein said overcoat layer is formed on said black matrix.

29. (New) A thin film transistor (TFT) substrate for an active matrix liquid crystal display device, comprising:

a substrate;
a plurality of switching elements and a plurality of data lines for supplying data signals to said switching elements formed on said substrate;
an overcoat layer formed on said substrate and on said data lines;
a plurality of pixel electrodes formed on said overcoat layer, said pixel electrodes being driven by said switching elements, respectively, and a data line of said plurality of data lines being formed near a space between adjacent pixel electrodes in said plurality of pixel electrodes;
a black matrix formed on said substrate in an area of said data line, for blocking light

passing in a predetermined viewing angle range through a light leakage region created in a liquid crystal layer of said active matrix liquid crystal display.